Notebook, PN-07-09-15

This pocket notebook contains dated entries from September and October 1907. It was used by Edison for notes and lists regarding experimental work and other tasks to be performed at the laboratory. Among the experiments listed or described are many dealing with alkaline storage batteries and phonographs. Other entries pertain to electromotographs, rectifiers, telephones, telegraphs, and thermocouples. Also included is a suggestion about using magnetic markers on films and records to start moving pictures and sounds simultaneously on the kinetophone. Among the employees mentioned in relation to individual experiments are Ralph Arbogast, Thomas D. Greenley, Otto Groethe, Walter E. Holland, and Albert F. Wurth. The non-experimental entries include reminders about patents, popular music, and product names, along with notations regarding the authorized biography of Edison by Thomas C. Martin, Frank L. Dyer, and William H. Meadowcroft. The pages are unnumbered. Approximately 100 pages have been used.

PN-07-09-15

Thomas A Edison

Orange N.J.

If lost please return

TAE

3 00 sec – 1000 . 003

Wires 59/000 1 Rest 18/54

20 Rest 1" long wires
1000 5"
1000 4 ft long
10000

1= Make the different Ni plated strips arrange in circle big jar + plate simultaneously from Iron Cathode Etc

2 Freshly dry of Fried Al_2O_3 on small Ni cylinder To strip flake – also magnesium Cathode —

3 Dr 1 sec of Magnesium hydrox fresh will precip Al_2O_3 out KOH, Hot.

4 Dr 1 sec of HCl will throw down Al_2O_3 from KOH, boil off HCl

5 Dr 1 sec of Monohydrate Na precips Al_2O_3 from KOH Completely – Formate K ditto,

6 Dr 1 Li_2CO_3 decomposes salts of NH4 Ca Mg Al Fe Cu + Ag
Least Sol Li Sulfate Phos Na + Li
Phos Li + Fluoride Li + Silica —

7 Leave Off soak 2 oz NO_2 green in 4% KOH, 10 min in metal Can in 15% NaOH, 1 hour dry and temp & give to Solution —

8 See if Al_2O_3 from Sulphate or other Al salt is deposited on Nickel so it will not in Rectifier

9 = Find in Paris Exposition boxes - Quad act - & Centro Perforator

10 For Business Plating Try 12" surface of Cathode & 1/4 in Anode in Cu sulphate or other Copper salts, & use of Current so uniform it will Rectify —

11 Group 6% diOl 6% B_2Na, 21% KOH,

12 = Drop the 6 Cells with non & Ni strips with 6 Ni linker Ni strips

13. Order or find some Tellurium

14 Try acetate Hg in Eng

15 John Oth Roll out some CP
Nickel 005 have Rogers
perforate + flat 3" tubes made

16 = See that Zornhoff gets his
tubes –

17 Dally flash a municipal
filament in oil + put in.
Lamp.

18 Grzenley plate some Tubes
twice as thick with Ni as now

19

Try this after
Charging that
with piece imbedded
iron rod to act of
local-atum.

20 Holland Takopa Chgd Tube put in piece impregnated charcoal which has surface sheen removed by acid - put in KOH, hot 4 hrs of any Current, ditto with 1% K_2CO_3 -

21 = Group 21% KOH, 10 grms Li Chlorg
ditto 15 NaOH " "

22 = Ditto 21% Sulph and Carb Li
15% Na Cl " "

23 Dr Try Sulphate LiOH in 21% H remove Sulphate by BaOH, see how free of BaOH can get it ditto SO4.

24 Dr 4 oz of purified Gran Sulphate KOH of much FeS dissolved in LiOH recrystallized it —

281
40
1700 | 125 | 1124 | 8.
1000
124

110 watts

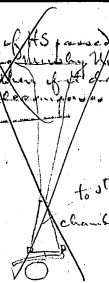
125 "

40.
20
80

225
125
125
40
225
281

25 Dr G sec of HS passed into Kott Continuous Chemistry Wotb. Combines at [illegible] of pt d n.s.o sec of LOH & examines it —

26 Walke



Ditto - measures dia diaphm demonstr lecture —
too much heat in preservat chamber

27 John Ott Make Wheelspoke on big Eng dia - best
5/000 10 20 30 - Mica
dia —

28 - Dr G sec of Vulcanized hard Rubber as sol in Terpineol

24-
20-
4 4 6
2 8 8
4 8 0 0
4 0 8 8 1
1 4 4
6 1 4

29 John Ott, Mr. Ott's new Repeating Dynamo for Telephone —

30 See Hooper about the Tubes that have been processed 50 times — Have been assembled with Glycerine Rubber mono —

31 - Lower Ott & Glass go up & examine over Rare Metals found Ta — also get 10 grms Each rare metal & make a Hol's solution of nitrate & put in a group cells &c colored tube & its cells.

32 Fred Ott order up Mg Hydride & Magnesium, also Nat., Kal & other chemicals Metals & salts —

33 Dr Ly see if Ni OH sol'n obtg LiOH

34 Halford take a good tube out & put it against a bad tube see if get improvement.

35 - Greenley & Walling let me know when get next British flakes as I want to pick it in 3 lots, each of which is more crumpled than the other is

36 - Set up 5 flat pocket Reg graphite new 2 grms LiOH & each c.c.c.

37 John about my 1000 Storage Cells —

38 = Walker work on Reproducer & put in both Ether - alcohol see if improve Equipment
Ditto the Methyl & get from dental most powerful

39 - Dr Ly Holland see if Perox Manganese deposited on Ni strip in alkaline sol. also Cobalt in solution Cobalt $2O_3$ is most possibly the peroxide may harm — be peroxide & see effect LiOH on these —

40 - Hooper set up some 33 % dry cands with 30% LiOH & run cold —

41 - group Reg graphite mix in tubes — 3 grms LiOH Each cell — 1/2 lb 1 lb 3 lb —

42 - Fred Ott make Carb Lithia Sing cylinder wet with LiOH —

43 - group $CO(OH)_2$ + 2 LiOH see if its active —

44 Groups with unplated grid dipped acid washed

45 In Al Rigs or see if addition of Carbonate Charring Current.

46 John Take Bell Telephone Short on a [illegible] Alum Dia 200 [illegible] Current with heating tube So can put cylinder B. Carb Na

47 Try lead Electrode spongy surface, so Carb Pb be formed + Al lead flat so K wont crumble away

Try our new pocket, also Ni pb
Try Cu Sb finely div surface
B. nitro — Ag coat hydroxide

48 Ferromanganese — In all cases of def metals use pointed plates Reduced to metals so acts form Carbonate or phosphates — ~~with~~ color probably great ~~[illegible]~~ large surface Al pb so K cant define or long flat

49 John Make Crumpy Machine for Crumpy flake —

50 = Edison Puff flake — Make 1/2 of whole lot regular — The other 1/2 Crumpy — notice dif in weights

51 = Rig up artificial line = 10 ohms — with capacity so nearly wipes out talking on telephone — metallic ck then insert 10 at telephone across — having very small leakages = Try Al. Pb — Wet paper Condenser —

52 = Dyer - patent - Repeater for Telegraph use / longer dynamo and battery

53 = See if Little Ether works Emg will act in endurance

54 = Fred Off, make dia 1/100 1/2 - then 5 10 + 20/in also thin + weigh wheat get from Wakefield

55 = Reduce or recover that Light salmon Chile heated thin removing mix with alcohol by ether + if Tube hot clean Zinc in few drops HCl + give O.K.

56 = 2 CP nickel strips 21% KOH, Heat see what at plates put KOH alone + measure it —

57 - See about old prod of it has not had KOH put in 2 grams or Reverse it half of mother further Can be doubled take it apart & reduce by degrees KOH + measure it —

58 See if Meigneux will act on Realgar in alkali — also where work KOH used with Arsenic in it.

59 = Fred Off arrange glass tubes to see the dissolving of green & flake diff positions & gelatin with plain & Green-labeled flake —

60 = John Off Make 1/2 doz cells CP nickel strips no non-all way up thin rubber + easily removable Metal Cans — Sheet or strips of zinc —

61 = Berger B off 3 oz of Reg Fe mix in 33% of Nickel dust with cover on for 4 hours — Use 200 cc 33% — then Remove + put in metal cell with double strips + put in Hot test 24 hours Dr G Test.

62 = put 33% in Reg Can double strips 24 hours hot see what comes out

63 = Boil 2 oz. No 2 green 5 hours
33% + put in 2 strip acel 24
hours heat test.

64 = get V + anodes + with one acce or more
see if emg action accelerates —

65 Berge Tabs 30 grams No 2 green
heat to 175 for 5 hours
in 21% 175 cc — containing
5 grams Nickel Calcium chloride
dissolved in KOH.

66 - Berge take 3 old tubes from
33% H Cond in Sugar with
KOH. 60 chrg dense 5%
KOH + 10% Sugar Reversal hours
then Cond in water get
Sugar out Sure + set up
with regul chgd 75 — 21% —

67 Hallwachs try 1.0 gr Li_2CO_3
in old tubes 6 chrg
leaks —

68 2 grams Ni to Can from Ray
2 " Fe to Can "

69 = Fe to KOH Calcium Tungsten
of Al_2O_3 by chg Sol with
Manganous ~~by in open vessel~~
it Carries down Al_2O_3 possibly
must precip $MnSO_4$ + O
it ~~requires~~ SO_4 by $BaCO_3$
Walls

70 See how in ~~Permanganate~~
out 21% ~~electrolyte~~

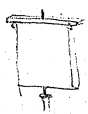
71 = To prove that there is
a species of Iron electrogen by
Cementation make a lot of
Iron alloy Kinds put in
series + enclose in Ray
up to put in Ray by chg ckt
& kept in months,

see if there are currents in metal at junction of metal & liquids
Value therefore chem action for instance in Zinc having or of Elements -

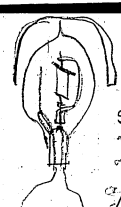
Junction
Cathode
see of Current Generating

Pure Boric acid in Water washed very liquor of NaOH do is the worst Conductor known -

Wurth - Method stimulation of electricity or heat till nearly all action off - power -



Drill



for Chemistry
Small quantity
make use
Long tubes 50 cp
arranged with
chimney arrangement
Burner to heat
& to pass H_2

Dr Q to deliver by parcel post
Roll before & after 72 hours
Electrolyte with Pt strips -

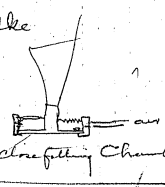
Send Gold Schmidt Thermit Co - send 1 g = 5 & price per lb Mn & Cr 99% CP -

Lonsett heat carried
horses 1 oz No 2 powder
with K Pr. Carb
10 grains Iodide K 1/10
175 grains N
Acetic mean other hot
10 grains 1A
possibly in a day or two
N will throw down mercury Iodide
of Sodium make sure of it

Dutch patent 147 313 Nov 10 1874

Al Refr by Bi Carb
Ammon Al2 O3 =
mixed which wont
the Cas with K
by Borax accelerates
Borate ammon

Wolke



Close fitting Chamber -

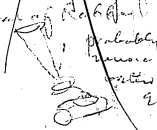
patent when Perfected
Repeater for Coloring - using
Voice field Ignition 1892 Jan 26

Peltier effect peculiar Thermo couples
dont expand more when current
is sent in one direction than
the other

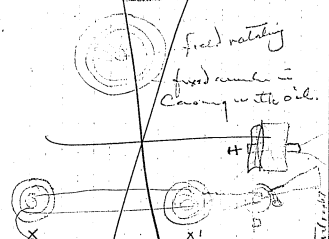
pure glass - buy for each sale
bow it size it gilt
charges Cheaply

Some phenomena observed Comm from a metal Electrode in Hg cathode is amalgamated or another Electrode like Nickel, which is not amalgamated, bottle dropping in Hg — should have off rays according to discharge CA also may be Thermionic effect

Rubber funnel this lowers high notes & brings out others also out, also Hg Reg funnel & separation of Rich & Poor



for high voltage Dynamos Commutator the field instead of armature then no trouble with brushes even with 60,000 Volts



for two wells sharing gas

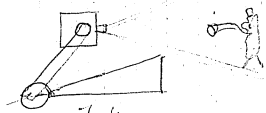
X X' Synchronous Signals & Motor

P phone H Kinetograph

for Taking Sound & visually

Reproduce with Compressed air attachment & Dictaphone

Magnetic Microphone



Tubing

Mr flake - 91

1st Reduce pulled strips by H.

2 " " " & put back

in $CuNH_4$ liquid &

3rd Connect to Cathode in KOH

& reduce by Current. then

put back in $CuNH_4$ sol

4th Reduce by Current, cat

with H_2S & then KOH, wash

dry -

5 Reduce in new H_2SO_4 sol

& wash then KOH & wash

Try Smoke ring box with

Ether + O ft away flame -

also - a flame + project

tetrachloride Carbon rings

also glass plate wet

with Olive oil Naphthalene, +

project Ammonia rings

Walke test old alcohol +

new machine high

Recall: same reason

3 to 1 Sea of London

test slides with fluorescin

in Conc printed scale

mag [big] + then big

lens, X heat + Red

to get new theorem

Narrow glass cell
In fall on outside
see with Hg amalgam
at gas changed
where chemical reaction
takes place inside the
cell

Shield the glass by a
piece of [illegible] transparent
then deposit metal
[illegible]
[illegible] the metal
Metallic cell not or
Cannot [illegible]
Thickness of the plating
Separate the plating
plate from the glass

July 1
Clean some 73 with HCl,
wash H2O [illegible] alcohol
dette by Current in KOH,
wash H2O - then alcohol.

See if 1 cell will
plate Hg out on strip
Ni - cold or warm -

Holland Acid Ferrotypy on
1761-2-3 Rum Cold series -

See Hooper 2459 To 2493

Arrange machine dump
green Grump olump flake Tank
only use 20 To 80 green -
Make a test & test tube -
18 green 4.5 flake then -
80 to 20,
See number perforations
so that if green is 10/1000
it will fit a hole for every
layer if not use 6 & 24
layers 13/1000 layer green

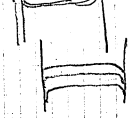
80 to 20 green 10 flake ink

Try coated between one piece flake & the other floating – also on Sheets use 1 cell the screen screen –

Wet end plunger also

Try 9 to 1 also 95 to 5,

also then 20 30 & 10 of yet screen –



See if makes any dif which end goes up on grid

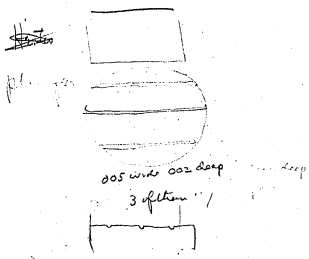
Pack a tube of the resin how far it chokes to green also when plunged wet & as green soaked with 4 5 7 1 10 –

Dyes – Warn Helm & Prodigal not so assiling abt Dec 1 Cleaned – 540

Try number groups with 10% of solid sulf in wet green the 40 – some to entirely dissolve using H_2O to dissolve out & other to leave the base & abstract replaced by KOH, leaving porous material – all to get porosity to raise economically & effective output

See Rogers abt changing from grid

~~see if some stiff dough~~
Ni Reg was dried high
heat



Look at a filled tube see if
flake closer nice or closer
than the other —

Use needle & open halves on
one tube —

Gives possible swelling of the
longitudinal in due to oil soak
on the flake hence 1/2 the flakes
(12) 1/2 the surface wound diminish
swelling —

Lowes oil – Sul Copper
175 cc Roff with 7 grams
dif sub – warm 17.6 flakes
see Wax mixed well & wound
found double ~~soak~~ also Copper

Webber try heat & [illegible]
also —

Uneven or side dumping of
green wound is very bad.
Try when get good groups
of Chu mix 2.002 by 2.0250
dumping green & flake as
well —

~~Range Dry Soil Kitch Linen~~
~~also Sheets Linen white wash~~
~~[illegible] Handkerchiefs~~
~~also Dinner Cloths~~
~~also Silk [illegible]~~
~~Silk [illegible]~~

Dry 16 X 4 ft Thus 80 + 20
" 36 X 10 ft abt 80 + 20
24 X 7 in CP Nickel grit + wire
all rubber 6 mighty
" 6 " " Cold
46/360 ft

5% KCl	33%	5% KCl -	2½% KOH
10	"		2 gm 1.054
15		10	
20	"	15	
25	"	20	—
30	"	25	
35	"	30	—
		35	

~~Diff of 7 - with + w chamd~~
~~wire~~

Dec 10 yr
Graham Lawyer who was
with Hix - see abt his Contract
Get proper abstract Cover
Conversation also our
judgement

See Haigh Coulter Engal
Cylder Engine under
Engineer

Dry breathing off pump
equivalent to 1 1/16 out of line

No 2 gasm soak in hot
Cond Sol Na Sulfate
neutral - take out +
dry then wash off outside
with + dry + use

OVS

Sec of mars / 29 @ 33°/o
tubes have been washed
plating dissolved off —

Compress 300 ohms
Small cake dried 1/2
W not felt dried too
next side of it becomes
transparent & Reproduces
OK = also moist —

Charge group No with potassium
[illegible] sec of chg —
Then assemble and [illegible]
& put in KOH & disconnect [illegible]
Idea being to grow
[illegible]
The NiO [illegible]

Clean inside tubes mechanically
make group / scour before making
act on tubes with acid —

Action 1/2 - 94 % chemically or 88 % or 71 % electrically
blacken it by H2O2 — Dry & try —

try some 40% hot on above blackened
flake. —

John make ~~[illegible]~~ ~~[illegible]~~ spiral in

Make tube only lower end closed —
put plug & wire on top pressed down
with 1/2 lb immersed in KOH.
see rise — ~~[illegible]~~

M sec. of comp f. to this — to dent

group 1/3 up 1 1/2 lb next 3/rd
2 lbs next — 3 lbs —
also reverse this —

Try beveled end packing
too. 8/1000 off ~~[illegible]~~

Oxidize some flake & Reduce in H —

group put on & dry Cold 1/2 mts 45 min then take out & dry with KOH in — then put Stick + Rem Reg —

This style plunger

Make group: North S. & West by turning plunger 245 deg + Reg load also layer load —

group green - the red one & print NaOH 245/1000 with idea of with drawl

Dilute 70% soaked 33% dried & then put in 21

Holland Charge group at 100 deg 7 1st Ratio 4500

Print 70% with Little Hel. So 100 only left in the dry — make group 245 [illegible]

dilute KOH.

group boiled in 21% — KOH.
" " 21% KOH 3 gms LiOH.

Oxidize some flake & then reduce in by Hydrogen 245 plunger —

press green & flake in Cake mould, see how green sticks — also break pieces & see if KOH separates (which) & the H flake —

group 287 - 1st soak water
then KOH 21 - Chromy & Rinse

group 1042 - ~~X~~ 4 fe 287 -

D4 - ~~NaOH~~ -
D4W ~~NaO~~ NaOH

Mixture 708 & 1040
(Fe) Thoroughly dried
NaOH - 2 of 708
1 of 1040 -

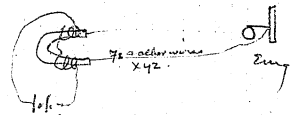
group - use saturated KOH
water - Reverse hot 24 hours
soak out in water, then KOH,
Till no more KOH, then
put in 21% KOH + Rinse -

flake Coated by reduction
Ruthenium - Done
Copper
Silver
Platinum - Done
Palladium
Osmium
Ruthenium
Arsenic - Done
Antimony
Lead -
Sulphur -
Gold -
Mercury
Thallium -
Tellurium
Selenium
Phosphorus

Cuyaga Falls
Ravenna
Warren Ohio
to Oleanon Pa on the line -
then to Mercer Pa
then to Franklin Pa
then to Tionesta Pa
then to Warren Pa —

H a Galt
general manager
Columbia Chemical Co
Barberton Ohio

X42

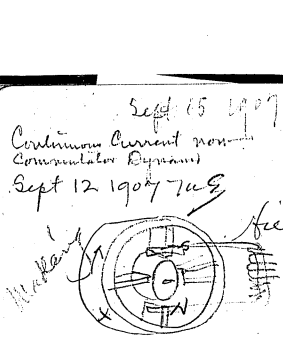


North Warren
keep on this side creek - to
Russell
Hickory Cross bridge
Fentonville
Youngsburg

Sept 15 1907

Continuous Current non-
Commutator Dynamo

Sept 12 1907 Ta G



Armature fixed X rotate
plane cross poles Coated
Shock with Copper

Magnetic Commutator

Try current non rotating
by Vanadate K in KOH

tube with finely divided Ni
of flake + 27% KOH, 3 gms LiOH
Reformate action –

LiOH. 2 gms 21% KOH + following

2 gms Zirconate K
2 " KCP,
2 " ZnOH.
2 " Arsbiocacid
2 " Formaldehyde
2 Sugar
2 Chloral
2 Amyl Alcohol
2 Methane
2 Jodthalic acid
2 " of all more needed dissol in KOH,
200 milg Vanadate K
200 " Tungstic
200 " Molybdic
200 Antimonic
200 Tellurate K
2 gms "
2 " Borax
1 " Magnesium OH,
1 " Ledox
LiOH KOH sol saturated with Uranium KOH,
1 gm ammonia
20 ml platinum Ammonia base Hydroxide
1 gm Cobalt Ammonia "

ask Johnny what HOD
for life Dis in June about
as for

Oxd on plate with acid to clean my iron off then OXdize & Reduce No 1 W

Sulphurize No 1 plate & then redu[illegible] No 4 S mg

Daily to oxidize No more strong than Peacock & reduce

Glashan - about many fragments get rapid - also calloxen -

Copper deadwood easy in 10 ~~CC~~ NHCl at 80 cent, Not NH4Cl - but of Dubray print in dip Cu

Roberts Chemical Co
Niagara Falls make
Caustic Potash -
Reputed burnt down

Try two Emg in Mycliphe & in series - see if works

Try for Emg Chlo Forrey Co

Ideas

plate iron No 9 Co in powerful pieces - see if magnetic or have self Chamudeyl

Try Making point paraffine & the dead[illegible] under powerful Dr[illegible]

Ideas

[illegible]

[illegible]

Subject Metallic Uranium to X ray — outside & also on unexposed plate inside & then Coal pot [illegible]

Pt — [illegible] Residual [illegible] N O
I Cl H. Cy [illegible]
all at once

Boil some [illegible] grass in LiOH, 3%
ditto 10% KOH 3 grms [illegible]

Try group Oxyz [illegible] [illegible] peacock 4 cases
10 of 24 — LiOH 4 Cocci

also 7 of 24 of this flake
also 10 of 24 25% KOH
2 LiOH

No 2 grass with glucose
[illegible] worked till day —
21 4 21 with LiOH, Soak out,

group - Saturated LiOH,
2 grms ~~[illegible]~~ LiCl
5 grms LiCl —
10 " LiCl
ditto 21% KOH, 10 grms LiCl
" 5 "
" 2 "
" 10 "
" Saturated LiCl —

Try Bichromate & SO_4 [illegible] short to blue copper. Try Bichromate & free HCl —

Try $CuSO_4$ boiling
also " [illegible]
also Ferric Sulphate
Manganese Sulphate

~~[illegible]~~

Oxalate strips very slowly
then [illegible] CuO in sand
the NO dont dissolve —

~~Acc of black stain [illegible]
anode from KOH
also $NaOH$, a soap
[illegible] or [illegible] with
Cans Nitry —~~

~~Besnerling [illegible] gross~~

~~Oxalate [illegible] Sour of
tubes of Cant Try strips~~

Precip in pores NO_2 gases
12 ½ of Sulphate Co in all Country

Ni	S	made
Cd	"	made
Ce		"
Mg		"
Co		"
Fe		"
Hg	S	"
Ag	S	"
Thorium		"
Ur		— made
Lanthanum		
Yttrium		
Didymium		made

for Calcitic Effects rain Crop.

~~Put Calcium Carbide in Bisulfate Carbon acc of acetin in [illegible] to Diamond (black)~~

Select one Cuttle flake big dec
Dolphin in "C8" –

Tantalum is some harder than
Aluminum or Rodolfer
Try on bottom edge if it
has some effect on Tal
Try Mabre Acid –

Polish gram well some K
phenol graph profile of
or make groups –

Use phenol profile on
reach two thread round
or try water not too
temp – put on hot 2
seed not to grow +
W Muller –

Holland find of CUO
Reg or Electrolytic is no
a Grinder Dont Chr dust

Some Cell hinge some
pockets pocked 2 lb Tool
Cut not prevented
Rice not fast forced in Holland
Run

Group with most also dried
on first plates seven grp
good flake +

Ale Wenth Try plating
in plated gold
With new flake try 3 lb
2½ 2 lb group Reg 21+
21+ Lott –

Record on the phone
Thru a telephone, Ag chloride
use double-face immersion
+ Emq — Dry sensitive

Make Reel for
with large Emq
Diagram Contacts to
Carry 50 amp
Motor phone —

Also Reed Vibrator
with Mag +
Good Contacts to
50 amp Reed
Lined to Dynamo

group — vin brown 10 of 24
green brown
5 of 12 green 2 lb cal or lead
also 4 of 12 green —
green thru 30 mesh —

Make strong Syrup of
21%, KOH. + phosphorus grafter
spread on 504 — sleight
Excess KOH + boil —
also perhaps NaCl Red & by H.

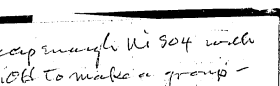
Dry powder HS thru
our 21% also 10%
KOH, also NaOH. 10%

Make group with 10
Mg flake from NaCl —

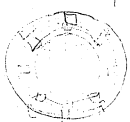
Daily Reduce Oxalate by H
at lowest heat use the powder
10 to 24 also Nitrate —

Recap enough Ni 504 wire
dials to make a group –

Make Copper Cylinder around
Core of a Sounder or
Magnet – also long



Longer pole piece –



Bachman make a ring
with permanent magnets on it

~~ask for copper for~~
~~Uncl neg plates for~~
~~Hall and to Leal~~

~~Pack cylinder loosely 1 tube~~
~~Reg No. mag – 21%~~
~~one " 33~~
~~one " 21 2 gm bag~~
~~" 27 "~~
~~one 33~~

~~New long tube machine~~
~~Reg group 23 1/2% Kell~~
~~1 2 4 6 8 10 12~~
~~group 10%~~ ~~Group Hal~~
~~" Cal~~
~~Ditto 21%~~
~~Ditto 18%~~ ~~Tach~~
~~Ditto 30%~~

[illegible] D some
[illegible] which
[illegible] finely [illegible] nuclei
21 & 21/2 [illegible] KOH groups
thru 2P

[illegible]
of [illegible]
[illegible]

[illegible] nucleo
[illegible]
[illegible]
[illegible]
or [illegible]

Try Tentative as above
in KOH to get it ends
Solution —

Change [illegible] finely dissolving get
[illegible]

generally Chot effect —
20 mech [illegible] (1:) 40/000
[illegible]
[illegible] in Cyl [illegible]
[illegible] —

form $MgCl_2$ by fusion of Mg Cl2
in an [illegible] fusible [illegible] Salt solution
then dissolve out by Hypo —

Experiment further with
Carb Na. K — screen thin
~~[illegible]~~ 15 mesh or 20 ends
the Carb — Try cold also
warm wash & reduce
by H also & quite & then
reduce by H ! Carb Ni in Sol
in [illegible]

Try Phosphate Sol.

~~Prussiate~~
arsenite Na –
Arsenate
polysulphide Na
Ferrocyanide – K
KCy not in specimen

Na is reduced by H in presence of KOH or salts which case be deposited out –

Anhydrous Carb Sod made by heating $NaCl_2$ with Carb Ammonium at 150 C in sealed tube 14 hours
but better by decomp $NaCl_2$ with acid Carb Sodium supersaturated with CO_2 at 140 Cent in a strong Vessel closed with a Cork thru which the CO_2 escapes slowly

K Sulphate
Na Hyposulphite – not working fluid

Dry Hypochlorite & Acetate Na or K
to BP gives primary Alcohol

Hypophosphite Na or K –

Formaldehyde – H2O gives pure
Methyl Alcohol

Carbide KOH –

Dry prepp 7/07 1/2 week
filtered dried Kow in
with general flakes
also wheel X.OH.

Also fetch old Reg
green

Ra make Gelatly
707 1/2 w followed
dried low heat -
Sealed up -

Boil some 'ROR in 5% KOH
for few minutes wash
well & dry low heat,
+ put in Gillio +
Cell - before & after
manipulation

Hooper to run a
drying Curve when
not of a [illegible] 100 2470
Tube going - dello 2471
on 5531 #2 2472

Purifying the Colloid and
of ROH by shaking with
Petroleum Benzol in presence
of air - the colloid does not
like Petroleum on Top

Copper reduced to a mirror
on glass by [illegible]
hydrogen -

New machine for Tube
groups changed 1/4 rate -
Hot & Cold -
with + without Heat -
Soaked 48 hours also + then
Chged 1/4 rate -
also chged 1/4 rate drying to
75% + Change [illegible]
1/4 rate + Upon [illegible] rate
Reg -

Iron Cupro-oxidize (then put
some collodion $Ni(OH)_2$ on it
& Reduce by H — Reg Mx

~~Mix some oxidized flake~~
~~with Nickel (only reduce.)~~

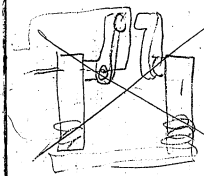
Mix some unoxidized flake
with Collodion $Ni(OH)_2$
Slir & dry — then oxidize
& reduce by H —

Paint nickel 72 cupro
with ~~nickel~~ Conc Nitrate
Nickel - oxidize & Red by
H — c

Ditto group tubes —

Try some anhydrous
$Ni(OH)_2$ in OX tube —
5 grms $Ni(OH)_2$ 2 1 o/a

Boil group Mercuric
Chloride —



CC Degum
Buchner to
1 mole — 60 g/107

Increase CHCl nimbal Alcohol
Unu H_2O 2½ pt Alcohol to 1 of Hg

Green boiled KI —
" " Oxalate K —

XYZ =

Hard Rubber Comp like Anderson's
dividing a liquid - diaphr. vibrator of
use KOH or H_2SO_4

Boil Reg Zn in LiOH.
3 gms LiOH in 210 cc
dilt's Conc LiOH -

Tubes gone bad by aluminum
boil in Ba.OH. out
in glass tube drawn
out at end to keep
CO_2 out -

Hydrochlorides of phenyl-hydrazine
sublimes on heating - Reduces Metals

To reduce the flash Cu
Oxide (precipt) heat in
water with NaCl - form
ChlPb + NaO - dilute
Ag_2O in water 1 pt - 3000
Platinum Ox in water -

Strong KOH saturated
with Lead Ox on cooling
gives scales -
Chl Na should be reduced to
Ox Na + Chl Pb - then PbCl
boiled out with H_2O -

Only $NaCl_2$ absorb NH_3 form
ammonia Nickel chloride well
this by decomposed in ether
acetone etc - dissolve out NH_4Cl
if H_2O_2 put in -

$MnCl_2$ cyanide & then
Mix with oxide magnesia &
ignite – also try oxidizing &
reduce – Screen out –

Try mixing $MnCl_2$ with
~~Cl~~ MgO reduce low
temp strong time in H_2

Mix $MnCl_2$ with fine dry
peroxide lead & heat gently

Cyanide only outside of $MnCl_2$
Mix with MgO & Dabby
reduce –

Try $MnCl_2$ in hot SO_4 up
to oxidizing point –

Try reducing $MnCl_2$ in
moist Hydrogen low temp

Reduce some Reg flake
with Hydrogen from Zinc
possibly Al is carried
over as hydride

also with Zn & graphite
in KOH to make hydrogen

$MnCl_2$ in Ether with Chromic
acid,

Ethylate / Sodium (Sodium alcohol)
dissolved in Ether – probably
make anhydrous MnO_2
is highly based as powerful
Treat absolute Ethyl with Na metal

Ethylamine precips Ni from salts but unlike NH_4 dont dissolve them in excess, Ethylamine unlike NH_4 ~~also~~ dissolves Aluminum in excess

Formate Na is better reducer than formic acid, it throws down sponges from some solutions -

Try Ni Salts - - powerful reducing agent -

Cyanides of Ni heated in water & vapor decomp give off CO CO_2 NH_4 - leaving the metal & small amount Charcoal -

NH_4Cy Valabilyps undecomposed when heated - possibly of passed over $NiCl_2$ from CHl NH_4 or $NiCy$ -

Ammonio Cobaltocyanide of Nickel $CoCy$ Ni dissolved in NH_4 of slowly evap crystallizes in scales -

Ferrocy Ni recently precip + dis in NH_4 & evap deposits a multitude of very delicate violet needles decomp in air & boiling in water but NH_4 ammonia is probably preserves form -

Better crystalizes out Ni Salts from NH_4 -

Try $HgCy$ saturated with HgO iodform on $NiCl_2$

$HgCy$ Ref - Scales

$HgCy$ & K_2CrO_4 Large laminar

" formate K - scales

" $CaCy_2 S_2$

Ni Carbonyl deposit metal on dry NaCl — dissolve out NaCl.

H_2O_2 added to strong Barytic water precips peroxide Bi in Scales — put chars in Sulphate Ni. etc —

Try NH_4Cl & NH_4 on old pockets after using a Reducing agent to reduce Fe_2 to Ferrous —

Possibly Cuprous Chl in NH_4 would do it — at same time dissolve the Fe_2OH_3

Reducing agts
Hypophosphites K alkaline
Bisulphite K alkaline —
Sugar — glucose —
Hydroxylamine in Alkaline —
Hyposulphite Na Alkaline
Hydrazine in K. also NH_4
Stannous Chloride
Ferrous Chl forms Doub Salt with KCl & other alkali metals also NH_4 — could play use a little HCl to dissolve Fe_2O & then form Double Salt would prevent forming a basic Compound

Sal 3 To 24 pts NH_4Cl in 1 pt ferric Chl would yield double Salt

Use 15 pts NH_4Cl + 5 pts Ferric Chl as solvent

~~Sodium and Sod.~~
Sod ammon added to MonoCarb K
or Na or Sesquicarb Ktly
makes a solution which FeO Hydra
dissolves completely

Copper is dissolved in boiling
Ferric Chl and Carbol
with air — Iron flake

use Sol of Ferric Chl &
Nitrite K — Iron dissolves
Ferric to form Dinitrosulphide
of Iron — Ferrous sulph
not decomp by alkalies

Try Tartaric a in NOH Nitro b
before a after reduction of Fe
Sulphon phthal —

when 1 mol of Fe_2Cl_6 — alcohol
Sol is mixed with 6 mol
Na Ethylate, Sodium Chl is
precip and sol is obtained free of
Chlorine Sol contains only
Ferric Ethylate Sol in
absolute alc free of Chloride
Ether pelt — from & Methyl al
insoluble amount water
precips Fe_2O_3 OH
after 1 can be thrown into
large quantity H_2O &
form sol. which is a mixture
Colloidal also

K with large amount
glycerol probably dis out Fe_2O_3

Perhaps neutral Nickel Chloride
will dis Ferric OX

Tell RA that Chevreul compound ferric oxide is brought to a state where the rapidly boiling and adding it with dilute Potash Water. Thus in Crevices -

Try dissolving Cu from flake by adding to Cupric bicarbonate enough Chl Sodium to saturate it -

Phenylhydrazine Reduces Sol. ads only
Sometimes at Hot water & in all proportion in Al. Ether Benzol & Chloroform -

Reduce the ferric to ferrous & heat with 130 gms water 240 gms NaOH. Thus will dissolve best not advised by Medical Ex.

Diethoxyacetone reduces ag in the cold to a mirror

Make a Cadmium Tube
use unglazed iron use
Cl. Spong & hand frame plunger
20 spring 18 flake -

c pump 1/2 thick 708
Run Cold 5 times 38%
KOH, then ~~sinker~~ poured out & 2% put in & Change once & then Run 5 Cold & put out at end,

perchlor. dissolve ferric hydrox
till it comes knowing a.s.
Remove then try it in the
50 X 20 Nitr precip —

30 pts KOH solid 50 pts water
ferric hydroxide pass chlorine
from black mass Ferrate K.
or dilution Ferrate dissolves
try with 50 X 20 Nitr precip —

Try ferric hydrox in tube with 10 of
24 ferric — 30 solid KOH to 50
water, see if it replaces MnO_2
as depolarizer — it mass in strong
KOH,

See if permanganate K is and
in 30 solid KOH 50 H_2O —

Step 2 tubes from the green
that had run in it
try about 50 H_2O 30 solid KOH.

Dichromate Chrom ox in tube
in 30 solid KOH + 50 H_2O 6z mass
(10) Bichromate K be used in thin concentration
possibly lead ox, CuO_2 —

Tryon 80 X 20 Sulfate K —
also Ferrate K

Glauber Chloride dissolves in
strong KOH, makes a powerful
reducer

$MnCl_2$ absorbs NH3. Then if
heated is reduced to metal

Cocoa has quite a quantity oxide
Mg — Chlorides Iron
Deposits of MgO, wet with
Mn acetate, Nitrate Bismuth
Oxalate Iron, phosphate Mg precip
Mg + MgCl — Cast than fuse possible
mix some iron or phosphate to both
Then could be moulded in
any shape —

Hypophosphite of aniline
insoluble in alcohol

Electrolyte for Photoflash

NH_4 (Conc 90) 57.5 cc

Borax (Crystal) 168 grams

Distilled H_2O 1800 cc

mix dis by boiling — filter

add to solution 20%

pure glycerine —

Andrews

Group Bros bur second

Dup the group well has
K_2O precip in green + dirty
tubes in NH4 + Lodge 1.08 group

also group with NH4
3 grms of alum with
3 from NH4 + 7 NaOH —

Shape — Lead end, tapered
End — 20/000
.003 at Spl to fit mould

Burr out — smaller flakes
grains bigger

Tried all screen fine flake out
roll with NaOH 90% green 10%
fine flake —

drill Reg flake — machine
with 7 Reg —

group bars not ground small
Lessen Oil grant made into
N_2O in Nitric Red Hydrogen

Tartaro combines again with Ferric hydrate
vessel whenever the Tartrate is soluble in
water –

Potassio Ferric Tartrate Sol
Ammonio Ferric Tartrate
by dissolving Ferric hydrate in warm
Tartrate Ammonia, solution 1 pint
of water

Tartrate Mn HK heating KOH2
& Chrom Tartar, results green
and disappears on boiling
Requires only boiling
Potassio Ferric K Tartrate requires
150 C to decompose it

Glycerine (Cold) 3 to 12 Mols 2 Fe
1 to 3 KOH, decomposes Coagulates
by heat, Chlorides or Chlorine
704
1st Group Sulphide 1st + 2nd chgs in 5%
KOH, 3 4 + 5th in Reg 21
dittos with KOH, 1 gram Z
only after 1st + 2nd in 5% –

group 1/2 thick of – in 5% KOH
Reversed in 5% hot for 1/2 hour
then chgd 1 or 2 times in 5%
3 4 + 5 in 21% – also Lead one

group Soaked water added
when just dry enough
ditto 1/2 soaked H_2O
mixed with dry when
the 1/2 is damp

Reg mix. 24 4 fl oz
1/2 lb Stamp – also
lightest stamp used
on Iron particles –

for dissolving mix from 80 x 20

Try 21% KOH, with Copper in
also – Zinc-Min Cr.
Sb Sn PbO, Al_2O_3, Co, Mo, WO,

Turn the 80 x 20 into sulphides
then manipulate,

as NiS is little sol probably for
Regenerating a tube Cond. Sulphide
the Ni & then pound & put in 2 to
Oxdyn it to Sulpfate & combining with
the K to form K_2SO_4 this is probably
sol so Gettin now 2 or 3% sol KOH.
& guess it time —

Try Al metal in KOH see if it reduces
also Na Metal Hg amalg —

Regenerating Tubes Neutrons in
20% KOH & then soak carefully all
the KOH out in big bulk of water
transfer quickly & immerse
in Sulphate Copper — this will
deposit Cu & dissolve nos,
& the copper will come out in
Running & not hurt.

Make some Cuprous
Sulphate & try 80 x 20

Try H_2S on 80 x 20 in water
only — see if Ferric Reduces
& Sulphur deposits.)

KCl form Double Salt with Ferric
ditto Ammonium Chloride Try 80 x 20
decomposes on Evaporation

a Ferric Nitrate does Ferric do Fe
in Nitric a keep cool

Ferric Salts decomposed easily by
heat — Chlorides 80 x 20
in Cold solns —

Our Fe_2O_3 must be colloidal because
when all the KOH washed out it dissolves
out of tube in water, this is many all
Colloids not,

Test wet green with strong Citric a
& dry redness — make green
& put Current on the moment tube
put in KOH,

Try 80 x 20 & Concentrated Ferrocyk
ditto Ferricyk. then wash out
with CP water the non Ferro
is Colloidal & sol water
& should come away from the
Ferrocyk K in green dissolves Prussian Blue
in pure water —

Try Rousseau's alt.
Sol K Hydrosulphide + K Nitrate
mixed & Ferric chloride
added (cold) & filtered -
Blue crystal deposited
Sol H_2O dil + Ether - they extract
Ether as usually as $CaCl$
absorbs H_2O - Organic
unchanged by alk Kat.
Ites compounds by nitrochrom
are unique. They are as nitrite
and nitrum Compounds no
Ds are hydrocarbon

A Double Salt of NiK_3
is obtained by heating $NiCl_2$
with KFHF in a platinum
Crucible - it occurs fine
green plates when heated
in air decomp to green
oxide Ns + KF
Analogous Co Salt Crimson
flakes

305000) 81000000 (2
610000
00000

225
80
305

305000) 84000000 (27.5
610000
2300000
2135000
1650

Group Sulphide from ~~ore~~ ore in weakest acid
whereas Co Ni are not, Ozone
Dry then never been explained

press HS in weak KOH or KOH with 80 x 20
& then ~~[illegible]~~ filter off & add
very weak acetic – get iron out.

Have Gap make 3 or 4 oz
Mo O_3 dis in NH_4 NH_4 NO_3 &
allow to evaporate to dry then
peroxide out, Screen then 20 & make
group –

Try Hydrazine Sulphide
in KOH to reduce
mix from old tube

Test our distilled
H_2O for NH_4

L OH ~~make up new~~
~~iron~~

Watter ~~make~~ group
Ni O ~~made tube~~

get plate for sphebotem
also sheet & plate

Soak Drg ~~80 x 20~~ polysulfide
K – 24 ~~hours~~ –

~~try prep Fe OH + H_2O_2~~
~~see if colitions in KOH,~~

~~group green breaked~~
~~Bichlitter Sbrom for iron~~
~~several hours – H_2O + abs alcohol~~

~~See about buck & flap~~
~~no 2~~

Fred ~~Off~~ Cut open tubes
4 of No 4 —

Group gross wet with
Chl Lithia so it will
have 3% of Chl.
in it to act as lubricant
percolate out all the
Li Chl — before
put in KOH.

Group Carbonate Theory —
Run in 5% KOH
2 grams LiOH. / rim hot
2 Runs on hot bath.
pour out LiOH + put
21% in let it stand
several hours then
Change Sol to 21%
Reg Dep Reg 21% Dep

Try one sol. pure wet first, to displace air
heat, the add acid rec. if you
ie CO_2 [illegible] — None

BaOH to form $BaCO_3$ to take CO_2 from
Nickel in Cd tubes — Then change the
the $BaCO_3$ by Chloride Nitrate
or Succ. of ammonia
When $BaCO_3$ is boiled with
Ammon Chloride to complete
decomp. t. Carb Nit, + BaCl
[from Decation Study in same summer] Sell
Try Bad tubes.

---

1 of CarbK 10 H_2O gives up CO_2 to form
Lime — with more concentrating
Solution the reverse action takes
place KOH takes CO_2 from the
Lime — Thus Explains things

Take one of the tubes which has no
LiOH but in strongest Sol then
21 — percolate KOH but then add
2% Sol KOH, with of 1 grams
LiOH. Run hot change Sol
then do it again — work out the
CO_2 rotation

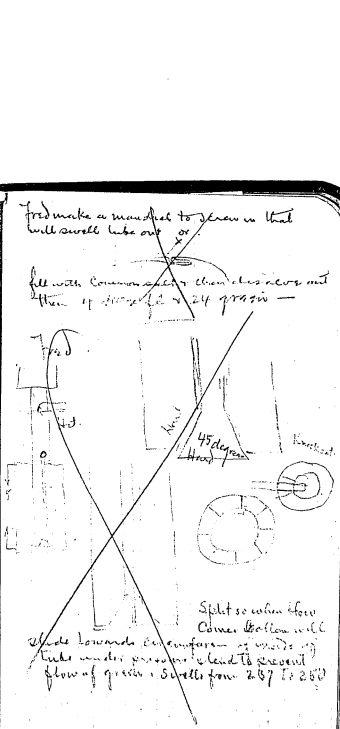
Group - 4 NO2 of 24 gr
Rinse twice then change full
of per oxide out the KOH, then
fill the NO_2 colloid commencing
to dewater out thru the hole then
immediately change in KOH 21%
Soak 10 hours & go ahead
running —

Group green wet with Conc Sol
of NH_4 — Nly 18% —

ditto wet Conc Sol of Chloride make
neutral, must neutral let it take
up all the NH4 & only soak
green in it then dry & use in
tube — then KOH 5% & boil —
then get out Chloride & Run Rey

Group the green of which is
Porous) 2 days in Ammonium
Sulphide washed in water
freely well & then in warm
acetic acid (acetic) finally
Alcohol dried —
21% KOH —

Tried make a manifold to clean in that
will swell tube out



Group - good [illegible], then green
then lamp - [illegible] then g.o lamp
greens fred Cap fro [illegible]

Cement works - white orange in drill & Dump
cochran you have [illegible]

cochy 2 horses 20 [illegible] put in 10 ft 6 [illegible]
No 111 -
Three 6 [illegible] Coal Gouges -
See about profiles [illegible] trap rock
[illegible] paint [illegible] wall
Red paint Exp good weather -

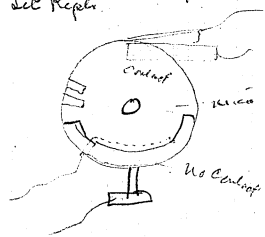
Trio Lovers Recommend
9549 - good Recom -

Neutral phos ammonia basil
for Al Reef -- Na or K salts req
Al should be alloyed with
small proportion of foreign metal
Pb anode shines by larger than
Cathode

Electrolytic Reef

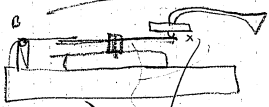
partition of
Carb strontia
Neutral phos [illegible]
Try partition of
Al_2O_3 Hydroxy -

See John on Change State
Let Report



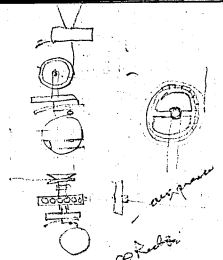
See of Bi metal anode
smooth alloyed in 21% KOH

Oct 28 1907



Telephone - wooden or rubber
cheek underneath the forehead

Telephone rubber on cheek & thickness
Electro-fusion chemicals at
brush & foil — amplifier &
acts as transmitter



1 – [illegible]

9 = How does RA purify H –
10 RA see that Dulong's pyrometer OK

13 Dr G work on Wenlock longflies
14 Pierman + Wirth + C Walker – ~~electrical~~,
15
16 Holland Put say 60 grms – Calloy pipe on hot test which 3 mins gives 120 or 130 –

18 Bonchurch Brookvale Cement Mixes –
19 Wenlock Brook Turbo Lab notebk & 1 Sylvia
20 ~~amount~~ Wenlock ~~impure~~ intermediate quality
21 = C word charges in all mixes –

25 Dr G determine rate of circulation of complete solution with 33% + 21% at def temp – also chge to ~~amount~~ of Na + deficiency of Na 9% – by spark work & Mean Dimensions

27 Holland chge dim A4 2 hi in dec water at 20 amp chge –

28 Holland. 4 times both but ~~substituted~~ KOH in ~~course~~ graphite rods known pots –

56.2 gr KOH. vs 39 gr small red mass
36 grms. H_2O or 45 grms Ferrous hydrate to metallic iron –

Tell Small ~~[illegible]~~ Brook Cement
Cubes on H ~~[illegible]~~

took a Raydhurst tube 7/9 24 p
soak 1 hour in 21% —
washed quick under hydrant —
put in front pm distilled water
one hour — No 3 tube
Dr G filtered sol 115 pm till
215 pm 92.7 mlg KOH.
2nd jar from 215 to 425 pm
gave 61.8 KOH mlg —
425 pm to 6 pm 22.85 mlg
KOH — 6 pm all night till 9 am
= 33.7 mlg — 24 hour output
5 mlg

Tell Holland 2nd hour on clay
was 21.50 in c.m. finish the
curve of elevation

21 KOH 2 LiOH in 175 cc
2 gms alkali 23.22.
21 + 12 LiOH. 34.00
27 + 2 LiOH. 29.13

Halftest of defervescence from tube
158 fahr 210 of 310 —
gave 123.8 Celsius — last temp
now in 60 @ 70 Centigrade —
off 520 65.75 mlg —
in 3 hours Cold 80 fahr 154 out
" " Hot 150 " 189 55

Hand sediment from Cell have
6 gms LiOH. 20 cc sol on charge
+ 20 ml dis + Dr G analysis of
relative portions of LiOH & KOH —

Charge 2 tubes — discharge one
take bottom rinse — open
Contents + assay for LiOH.
Use 21 + 6 gms LiOH each
Cell —

9. (put Tube 7/19 — L 10 cc —
in 12% KOH alone saturated)
1 hour. 21·6 mlg. came out
2 hours 10 min 18·8 came out
1 hr 35 " 9·6 mlg —
put tube in at 6 35 for
all night — at 9 pm
~~30~~ 31·2 L 10 cc

Reg No Tube from Hoppe fully charged
removed from cell with Clark at 8h —
Washed for instant under hydrant —
put in chilled water 1 hour,
it gassed very much at 2. The column has
about as much at end of hour as on
start = looks as if NO decomposing in water
Solution 1 Hour gauge - 120 mlg
2. 45 min 115·2 mlg

Have Dr Y column I am going to take
changed Hg - wash + put in chilled
water closed up - take it gas
given off to H for Oxygen

8.

4 | 160 000
40

12000 | 40 000 lbs water 1000.
12000 | 40 000 000 = (3300
36 000 000
4 000 000

1

50 lbs coal.

30
1500 40
60 000 600
(3000
1200

12000 | 36 000 000
36 000 000

104
20
208
17 | 2080 (173
2040 120
40 46
4 173
2076

4000
80
32 000 200
32 000 000 | 7,400,000

14 | 1040 000 000
98
60
56

200 000 | 7 500 000
6 00 000
1 500 000 | (37

330
600
198 000

Harmonic
Overtone
Specent
Tonic
Ebony
Lyric
Symphonic
Compound
Pendulum
Ebonoid
Diamond
Lignoid
Centrifugal
Eater
Alcol-

24
7
31

24
4
28

1000
857
143

240 (857
224
160
140
26

857
143

34 | 240 (735
238
120
102
18

750
735
5

750
265
3750
4500
4500
750

1950
1120
3 | 830
277
1107
78

120
1107
120
2217
1107
3 | 3,790
237
3160

Albrecht to Sharon 42
Warren to Sharon 20
Sharon to Mercer - 25
Mercer to 7 23
110

1 = drake spring apart burs not long enough
2 Burs not long enough 8# long plunger fill
light upward flowing of gasoline —
3 burs not long enough so no expansion of
gasoline —
4 = New mould made many bs different
5 plunger too sharp no chance gas
escaping
6 has friction on plunger hits harder
with larger loading. Try 2 2½ 3 lbs
7 Rings on too tight put on by hand
8 Collapse present tubes are of steel
only 250 - 450 lbs o plunger —
9 - Steel flake for contrast by allowing
long flake 1 inch and thin only
by its weight 1 oz 6 balls —
10 perhaps necessary load at angle —
11 Try old method load up with 84 f
18 + 24 7 + 24 — also 3 lbs —
12 = Too much or not enough cushion at
bottom or starting try more + less
should be none although whole tube used
shift bottom 5 5 — always by dumps
13 = with puff bottom + short burs whole
load shifts —
14 - me arms length good a bad tube —

15 - possibly slide together in wrong than
therefore - allowed bz loose quality how
made breaches of the newer had orbit —
16 - group mixed dump with wires —
17 test contrast — Tube with long pressflake
(18) ~~Another shape bearing shell for 17" [illegible]~~
19 - group old way dump 2 lb 84 f —
20 Take one out least group - of 9/10 KOH
2 lb of good ammo opening tube &
compare angle burs etc with present
tubes —
21 - Confuse the ammo —
22 allow air get out easy
23 old flake only 68 in gun) tube
[illegible] tapers which together make
lead bullet —
24 = 68 good flake fill H. wire bottle
probably would very springy flakes to
hang under + crack
25 Try group double chickens
nickel —
26 = Rig (groups dipped) 1st for ½ hour
in 21% Blue vitriol. Cu OH.
27 = Reversed for 10 minutes in KOH
old ammo —

28 if 27 is OK – try the 3 groups with 1029 –

29 – 3 groups tubes approved also appliances –

30 See if 58 tube which is partly poured shows puffing up of material in top part – or also bad lines –

31 – 1 cc of formic formed 1029 ~~Fe~~ anode in KOH 1/2 grams 40 ttl –

32 – group pink Forrest dip trim in it –

33 – dry run in KOH. blue with $CoOH_2$.

34 – point for flake chicks on to break up collar during pouring –

35 Dry some 708 for 1 or 3 hours, make the 3 groups after it's been cold 1/2 hour then another set groups after 6 hours –

36 = Take out one of Banner tubes not both, break out most KOH & dry-saw it open –

37 ack'ed only 1 of 4 as in good tubes one difference

38 – Examine Banner tubes – see if spiral 1 or 1½ turns –

39 – Grossly make some flakes with intermediate work say 3 to 5% – brittle flakes like Cu Sup, cause removed & make his process –

40 – chg group at voice normal –

41 – chg group normal short Ellt –

42 – group with current on before pulling in liquid

43 – Current on 5 minutes after part in liquid

8.27

Sheet steel cans
all sizes & parts length & Radius & diameter 10.00

43 = put in ice water & charge 1st time normal + keep cold during charge —

44 = ditto Hot 100 deg Normal rate —

45 - Charge + dis. cold 4 times Cold in 33% put in 21 10 hours then in fresh 21 for Hot look.

46 = 3 gms LiOH. 21% run 5 hours & soak out LiOH. put in 21% Pinkish —

47 = Nickel Hydroflake old very dump. rosin on flake — Dry 5 min/24 hr. Granulate make lucas thick / brittle flake

48 - charge fully discharge only 50% charge fully again discharge 50% of supposed capacity - then charge full again + discharge Regular 3 or 4 times.

49 - charge 1000 ma - discharge 500 chg 1000 dis 500 charge ~~[illegible]~~ normal discharge ~~75% [illegible]~~ normal -

50 chg normal dis 75 chg normal dis 75. charge normal dis 75% chg. Chg + discharge full at normal & observe times —

51 = Charge 500 dis 350 charge 800 dis 560 chg 1200 dis 840 charge 1500 dis 1050 - charge Reg dis fully

52 use platinum anode CPN Cathode Warm pass 200 mil a for 24 hours use Uno KOH Cold on fresh group chg + discharge normal — get info out

53 = dip group water then dry out
54 dip group 21% KOH, Dry out.
55 " " water Entering 20 mlg HCl. dry
56 " " " 20 mlg KCyd.
57 " in strong Hypochlorite wash out,
58 Dip in Saturated LiOH, bank out.
59 Clean flake in Conc KCy - wash & dry
make group —
60 Bank flake Conc LiOH, boiling in
Ni dish - make group —

Dry group flake with HH, strong HCl
wash & dry

also Bromine 1 oz Cor on flake
CCl4 it —

365 / 30000 / 4320

711 f thru HH then Cu Sup again -
Jump group Jump flake

6792 — 8.639

6793 — Ditto 73 flake.
8.060

6794 — 71 strip flake
7.784 -

6795 73 flake plunger water each
drake —
8.264.

all the above made same group
as 6792 =

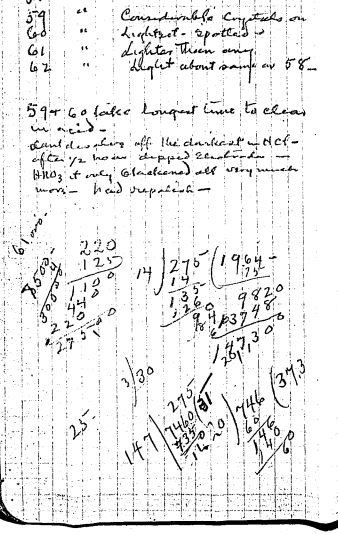
0.911
7.911
1.9.1
2.4.4
0.4.2
0.4.0
55
48

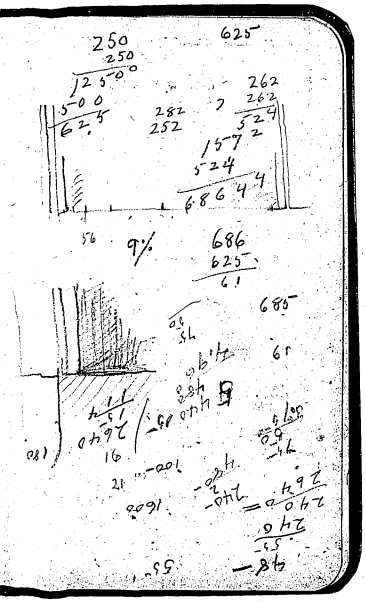
1.7.6

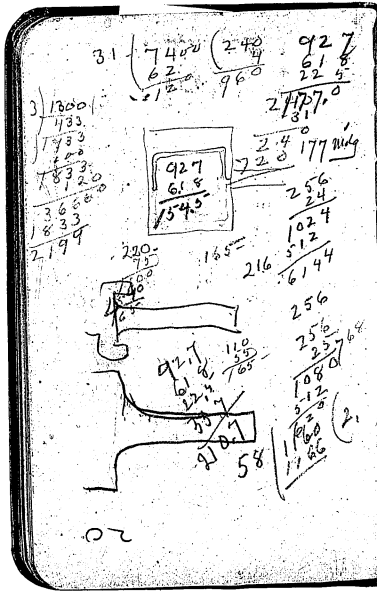
-9.11

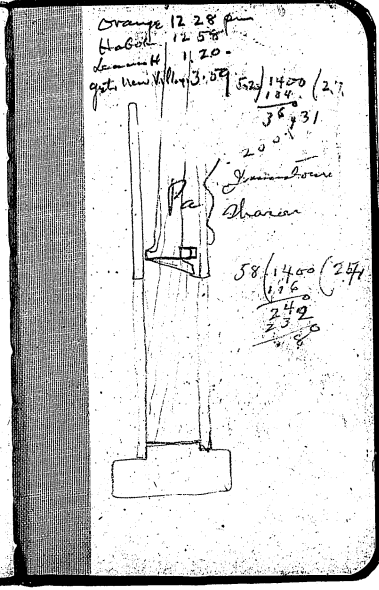
57 = Brown light
58 " " shade more
59 " Considerable crystals on
60 " Lightest - spotted
61 " Lighter than any
62 " Slight about same as 58 -

59 + 60 take longest time to clean in acid -
Acid deposits off the darkest in HCl - after ½ hour dipped 2 centrifuge — HNO_3 & only (Vaseline) all very much more - had precipitate -








Orange 12 28 pm
Hoboken 12 58
Lackawanna 1 20
Pa
Shaver